PROBLEMS IN THE PHYSIOTHERAPY MANAGEMENT OF OESOPHAGEAL SURGERY[1]

ROSEMARY SAMIOS, M.A.P.A., M.C.S.P.

Lecturer, School of Physiotherapy, Sydney.

Those who started working in thoracic surgical units in the early 1950's have witnessed many changes. Over the years the emphasis has shifted from surgery for tuberculosis, to surgery for abnormalities of the heart, surgery for cancer of the lungs and surgery for a variety of conditions, both acquired and congenital, of the oesophagus. Some of the problems encountered in the physiotherapy management of this last group will be the subject of this paper.

Oesophageal surgery is performed in a variety of conditions, in patients of widely varying ages; for the sake of convenience and to avoid needless repetition the management of these patients will be considered in two groups:

1. Infants and the newborn,
2. Older children and adults.

Infants and the newborn undergo oesophageal surgery for congenital deformities such as sliding hernias and tracheo-oesophageal fistulae. A few children and adults require such surgery for congenital conditions such as webs or atresia of the oesophagus, and acquired conditions such as benign stricture which might be the late sequelae of burns following the accidental or intentional swallowing of a corrosive substance. The majority of adults admitted for oesophageal surgery, however, are suffering from obstruction by malignant tumour and undergo extensive surgery for replacement of the oesophagus with jejunum (oesophago-jejunal anastomosis), or colon (oesophago-colo-gastrostomy), or resection of the oesophagus with end to end anastomosis.

Infants requiring oesophageal surgery are often brought to the theatre a few hours after birth. The congenital deformity is corrected, if possible, as a one-stage procedure, and a jejunostomy is performed at the same time, which is used for feeding with expressed breast milk or equivalent formula. The infant is nursed flat in a humidicrib with oxygen and turned regularly from side to side. These babies often suffer from inhalation pneumonia and are treated fourth hourly by the physiotherapist. An FG5 or FG6 catheter is used when doing tracheal suction. Careful rib-springing on expiration may be used and postural drainage is performed by placing 4-in. blocks under the crib. If necessary the infant is encouraged to cry periodically. After approximately two weeks a gastro-graffin swallow is carried out and if healing has taken place oral feedings are commenced. Care must be taken at this time that the physiotherapy treatments are done immediately before feedings and not following in order to avoid regurgitation of milk.

Infants with sliding hernias who are managed conservatively are nursed in the sitting position. A special wooden chair was designed by the physiotherapy department in the Page Chest Pavilion along the lines of the famous "Safe-n-Sound" baby safety car seat. This chair completely envelops the infant on three sides from head to buttocks giving complete support to head and trunk. It is tilted backwards slightly and attached to a cross-bar which is anchored to the crib by two sandbags. . . . The wooden frame is completely lined with cotton wool covered with lint which can be changed as necessary. A calico bandage is wound around the chair to ensure the complete safety of the baby in the most unlikely event of his tipping forward. Semi-solid foods are commenced as soon as possible, usually at three weeks. Fourth hourly physiotherapy treatments are again carried out along the lines described above as these infants may also suffer from inhalation pneumonia.

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As already mentioned, a small number of adults and children admitted for oesophageal surgery are admitted for management or reconstruction following the swallowing of a corrosive substance, and these patients may pose special problems for the physiotherapist. One is often faced with a badly burned mouth and larynx which makes coughing and expectorating difficult. In the case of an attempted suicide these difficulties are greatly increased by the patient's negative attitude to all forms of treatment. The physiotherapist's problems are often further increased by a language or communications difficulty as this method of attempting suicide is more common among Asians and mid-Europeans than Anglo-Saxons. Children who present for reconstruction of the oesophagus are often dwarf-like in stature from long-standing malnutrition; very often this is accompanied by personality problems which require understanding and careful management.

The most common acquired form of oesophageal obstruction is the malignant tumour. Patients making up this group are predominantly women under 30 and men over 60. Since the oesophagus is primarily a conduit to carry liquids and solids from the oral cavity to the stomach the dysfunction resulting from obstruction or oesophagitis eventually produces a thin debilitated patient. Unfortunately carcinomas of the oesophagus tend to be rather advanced by the time the patient develops symptoms of obstruction; all symptoms of dysphagia or reflux oesophagitis require immediate diagnosis if carcinoma is to be found in its early form. Oesophageal obstruction leads to inhalation pneumonia from spillage of saliva and food debris. Pre-operative physiotherapy is essential and includes postural drainage and I.P.P.R.; however in most cases the debilitated state of the patient makes vigorous physiotherapy impossible.

The surgical cure rate of carcinoma of the oesophagus is distressingly low and much of the surgery is palliative. It is essential that a surgical procedure with a low cure rate have a relatively low morbidity and mortality rate, and good efficient physiotherapy plays a most important role in helping to keep this mortality rate down. Following surgery the physiotherapist is faced with treating a very weak patient, and the lengthy anaesthesia has usually aggravated the pre-operative pneumonitis. Coughing is found to be non-existent or weak and many of us feel that this is due to diaphragmatic inhibition caused by the low thoracic incision and internal handling, similar to quadriceps inhibition following menisectomy. The usual physiotherapy treatments of postural drainage, I.P.P.R. and tracheal suction must be undertaken with care. Most of the morbidity and mortality from surgery on the oesophagus is related to leakage from the anastomosis line, and surgeons are concerned that the swallowing of air during the administration of I.P.P.R. may cause gastric distension with internal suture line tension. If this form of treatment is used it has been found necessary to aspirate any accumulated air from the stomach at frequent intervals by means of a syringe attached to the intragastric tube which is always inserted at the end of surgery. If postural drainage is done all gastric contents must be aspirated before commencing treatment to prevent any spillage into the lungs. During surgery the cardiac sphincter is usually by-passed and the fundus of the stomach mobilised and attached to the oesophagus above the growth. Thus even the horizontal position may cause regurgitation of gastric contents, so these patients are advised on discharge never to lie flat.

Tracheal suction without a laryngoscope is a blind procedure and difficult even under normal conditions, but when a gastric tube is in place the tracheal suction catheter is inclined to follow the pathway of the gastric tube and entry into the trachea becomes a procedure of trial and error which is tiring and trying particularly for these debilitated, weak patients. As the patient is allowed nothing by mouth for some time a dry mouth and throat further adds to the problem and exposes the patient to unnecessary trauma. It is the opinion of the doctors in the Page Chest Pavilion that the physiotherapists working in this field should familiarize themselves with the use of a laryngoscope thus enabling them to work safely and efficiently with minimum discomfort to the patient.

Finally, when the predicted life-span is limited, a speedy rehabilitation is necessary, and when the patient, who has had surgery

for a malignant tumour, is restored to a useful and independent life it is sometimes found that that life-span is prolonged beyond the expected prognosis. The physiotherapist plays a major part in this rehabilitation programme. The Marie Curie Memorial Foundation feels that the keynote in dealing with the cancer patient is hope, and since the physiotherapist spends as much, if not more, time with the patient as anyone else in the medical team, she must accept this challenge and plan her total programme around this concept.